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10/677,659	10/02/2003	Mark Joseph Cavage	AUS920030770US1	9967

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EXAMINER
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WILSER, MICHAEL P

ART UNIT	PAPER NUMBER
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2195

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/677,659

Applicant(s)

CAVAGE ET AL.

Examiner

Michael Wilser

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 02 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

1. Claims 1-31 are pending in this application.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4-15 and 19-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The following claim language is indefinite:

(i) As per Claims 4-6, 8-10, 12-13, 19-21, 23-25, and 27-28 uses the terminology "characteristic". It is unclear as to what the applicant considers to be a "characteristic" of a parameter. Therefore, clarification is needed as to what is meant by the term "characteristic". For purpose of examination the examiner is interpreting this to be any part of a parameter, including the parameter itself.

(ii) As per Claims 4-15 and 19-30 refer to a first set, second set, and third set of parameters throughout the claims. However, the applicant never clearly defines what each set of parameters is and which parameters fall into which set. Therefore, it is unclear as to the relationship that could exist between sets of parameters. The applicant should clearly state what is included in the first set of parameters, the second set of parameters, and the third set of parameters. For the purpose of examination the examiner is interpreting a set of parameters to be any item that has more than one parameter.

### ***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 16-31 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

6. As per Claims 16-30, they are drawn to a computer readable medium, which the applicant has defined in the specification (page 41, lines 9-10) to encompass an electronic transmission signal. The Office considers an electronic signal to be a form of energy. Energy is not a series of steps or acts and this is not a process. Energy is not

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a physical article or object and as such is not a machine or manufacture. Energy is not a combination of substances and therefore not a compilation of matter. Thus, an electronic transmission signal does not fall within any of the four categories of invention. Therefore, Claims 16-30 are not statutory.

7. As per Claim 31, although the preamble of the claim recites "apparatus", the body of the claim includes only "means for" language. Claim 31 neither includes any computer hardware components nor positively recites that the apparatus is stored on a computer medium that can be read by a machine. As such, claim 31 is directed to software per se which is non-functional descriptive material and non-statutory.

### ***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 16, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Deng et al. (Scheduling Real-Time Applications in an Open Environment).

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10. As per Claims 1, 16, and 31, Deng teaches the invention as claimed including a method for processing data in a multithreaded application (page 308, column 2, paragraph 2, line 2) comprising:

a. placing work items into a data structure that is maintained in the data processing system, wherein the work items are pending processing by the multithreaded application (A1-An, Figure 1 & page 310, left column, paragraph 3.1, lines 8-9);

b. processing work items from the data structure by a plurality of threads within the multithreaded application in accordance with a first algorithm (page 310, left column, paragraph 3.1, lines 12-14); and

c. processing work items from the data structure by a thread within the multithreaded application in accordance with a second algorithm that differs from the first algorithm, wherein the thread is configured distinctly from the plurality of threads (page 308, left column, paragraph 2, lines 6-9 & 11-13).

### ***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2-3 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deng et al. (Scheduling Real-Time Applications in an Open Environment) in view of Kaler et al. (US 7,051,330).

13. As per Claim 2, Deng discloses that the data structure is a queue but does not explicitly disclose that the first algorithm is a first-in first-out algorithm. However, Kaler discloses a method for processing data using a first-in first-out algorithm (column 12, lines 25-33).

14. It would have been obvious to one having ordinary skill in the art at the time of invention to have used a first-in first-out algorithm in Deng. One would have been motivated to use a first-in first-out algorithm because of it being a common and highly used algorithm within the computing arts.

15. As per Claim 3, Deng does not explicitly disclose of running the threads on a continuing basis or running the threads on a periodic basis. However, Kaler discloses a method for processing data in a multithreaded application in which the threads run on a continuing basis and on a periodic basis (column 14, lines 46-50).

16. Claims 17 and 18, they are rejected based on the same rejections as Claims 2 and 3 above.

17. Claims 4-6 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deng et al. (Scheduling Real-Time Applications in an Open Environment) in view of Shiu et al. (US 2004/0031035).

18. As per Claim 4, Deng does not explicitly disclose that processing by the second algorithm comprises examining the work item for a characteristic and processing or not processing the item based on this characteristic. However, Shiu discloses a method for processing items in which the item is examined to make sure that the characteristics (criteria has been met and then processing or not processing the item based on the criteria (page 33, paragraph 34).

19. It would have been obvious to one having ordinary skill in the art at the time of invention to examine work items to ensure that they meet the characteristics needed for processing in Deng. One would have been motivated to examine the characteristic before processing to ensure that the thread that is going to process the current item is best suited for that item and that the item meets the requirements to be processed.

20. As per Claim 5, Shiu further discloses that the parameters for the work item include authentication characteristics (criteria) (page 5, paragraph 83).



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21. As per Claim 6, Shiu further discloses that the parameters for the work item include administrative characteristics (criteria) (page 3, paragraph 56 & 57).

22. As per Claims 19-21, they are rejected based on the same rejections as Claims 4-6 above.

23. Claims 7-9, 12, 22-24, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deng et al. (Scheduling Real-Time Applications in an Open Environment) in view of Cota-Robles (US 2001/0056456).

24. As per Claim 7, Deng does not explicitly disclose restricting the processing of an item in accordance with a parameter. However, Cota-Robles discloses a similar method for processing data in a multithreaded application in which work items are restricted by parameters (page 3, paragraphs 31 and 33).

25. It would have been obvious to one having ordinary skill in the art at the time of invention to have restricted processing of items in Deng. One would have been motivated to restrict processing in accordance to a parameter so that if the parameter included information indicating that the item would stall, the item would be prohibited from processing until this parameters status had changed.

26. As per Claim 8, Cota-Robles further discloses evaluating the work items for a characteristic in a second set of parameters and in response to the characteristic processing or not processing the item (page 3, paragraphs 31-33).

27. As per Claim 9, Cota-Robles further discloses of reevaluating the work items for a characteristic in a second set of parameters and in response to the characteristic processing or not processing the item (page 7, paragraph 75).

28. As per Claim 12, Cota-Robles further discloses of selecting a characteristic to be evaluated as indicated by a parameter (page 4, paragraph 40).

29. As per Claims 22-24 and 27, they are rejected based on the same rejections as Claims 7-9 and 12 above.

30. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deng et al. (Scheduling Real-Time Applications in an Open Environment) and Cota-Robles (US 2001/0056456) as applied to claim 7 above, and further in view of Doing et al. (US 6,018,759).

31. As per Claim 14, Deng and Cota-Robles do not disclose comparing a number of items with a threshold indicated by a parameter and then processing or not processing the item. However, Doing discloses a method for performance tuning in which a number of item are compared to a threshold value and then the item are processed or not processed (column 23, lines 10-40).

32. It would have been obvious to one having ordinary skill in the art at the time of invention to compare items in Deng and Cota-Robles with a threshold of a parameter. One would have been motivated to compare items with a threshold value before deciding to process to determine if the system has the resource available at that time to process the current items.

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33. As per Claim 15, Deng and Cota-Robles do not explicitly disclose comparing a time period since an item executed with a threshold and then processing or not processing the item. However, Doing discloses a similar method for performance tuning in which a time period between items being executed is compared to a threshold (column 23, lines 10-40).

34. As per Claims 29-30, they are rejected based on the same rejection as Claims 14-15 above.

### ***Allowable Subject Matter***

35. Claims 10-11, 13, 25-26, and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and to overcome the 101 and 112 2<sup>nd</sup> rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Wilser whose telephone number is (571) 270-

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1689. The examiner can normally be reached on Mon-Fri 7:30-5:00 EST (Alt Fridays Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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